

# IPM NEWSLETTER

## Update for Field Crops and Their Pests

<b>No. 21</b>	<b>August 21, 2009</b>
---------------	------------------------

Past newsletters and other information can be found at [UTCrops.com](http://UTCrops.com)

Bookmarks: [Cotton situation](#) [Insect stuff](#) [Moth traps](#)

### Announcement --- 2009 Cotton Research Tour and Wheat Production Conference

**When:** September 2<sup>nd</sup>, 2009 registration from 8:00 to 8:30, Tour starts at 8:30, Wheat Production Conference starts at 1:00 pm

**Where:** West Tennessee Research and Education Center, Jackson

**Cotton Tour:** Variety Performance - Insect Management - Glyphosate Resistant Weed Management Irrigation - Glytol + Liberty Link Cotton - Planting Date Effects on Cotton - Defoliation Programs

**Wheat Production Conference:** Wheat Variety Performance - Insect Control Issues - Weed Control Basics - Agronomic Considerations - Malting Barley Discussion

### Announcement --- Look at Them Beans

UT Extension and The Research and Education Center at Milan will be hosting a really good **soybean disease, insect and weed field** at Milan, TN on **Wednesday, Sept. 9-09 starting at 8:00 AM till 12:00 noon. Registration begins at 7:30 AM (free).**

### Cotton Situation (Dr. Chris Main, Extension Cotton Specialist)

The Tennessee Agricultural Statistics Service reports cotton condition as 18% excellent, 58% good, 22% fair, 2% poor, and 0% very poor. 95% of the crop is setting bolls compared to 87% last week, 99% last year and 99% for the five year average.

**Heat unit accumulation.** This year’s late planted cotton crop, moderate temperatures and ample rainfall have everyone concerned about getting the crop to finish. A comparison of heat units from 2008 and 2009 might be surprising to many (myself included). Table 1 compares the two growing season’s heat unit accumulation at the West Tennessee Research and Education Center (WTREC) in Jackson.

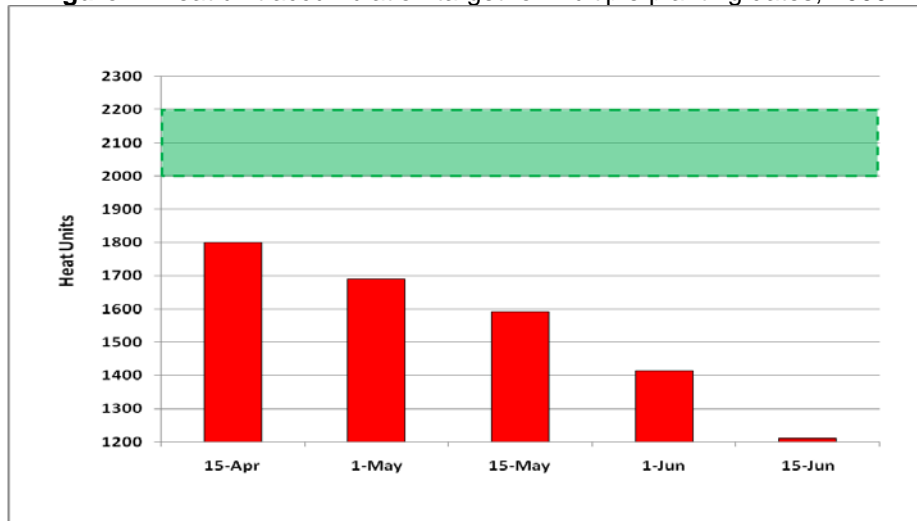
**Table 1.** Comparison of heat unit accumulation for 2008 and 2009 crop seasons.

	Planting Date				
	4/15	5/1	5/15	6/1	6/15
	<b>Heat Units Accumulated</b>				
2008	1829	1768	1696	1511	1224
2009	1800	1690	1591	1415	1210
Difference	-29	-78	-105	-96	-14

What surprises me is that for the majority of our cotton (May 15-June 1) we are only 5-6 days behind last year’s accumulation (based on 18 heat units per day). In fact the heat units we have been accumulating are quality units. Typically temperatures above the mid-90’s are detrimental to cotton growth and development. Environment plays a large role in how fast cotton develops as well. In South

Georgia they base a growing season on accumulation of 2600 heat units. Typically we target 2300 heat units in Tennessee, but other locations can be as little as 2100 heat units. Last (2008) year's crop matured on as few as 2000-2100 heat units. In my planting date trial of 2008 all dates were defoliated and picked before reaching 2150 heat units. However, the 2008 crop was not as lush as our current crop. Figure 1 will help track milestones in heat unit accumulation. The green box represents the target heat unit accumulation for this year's crop to mature.

**Figure 1.** Heat unit accumulation target for multiple planting dates, 2009.



In general, the crop should reach 2000 heat units in as little as 10-14 days for April/early May planted cotton, or as long as 30 days for June 1 planted cotton. The June 1 cotton should reach 2000 heat units around September 20<sup>th</sup>. With that date in mind, June 1 planted cotton will need protection from pests until around mid-September.

**Cracked bolls appear.** The first open bolls appeared this week at WTREC in April planted cotton with just 1792 heat units (Figure 2). Consultants reported cracked bolls appearing in thinner areas of a few producers fields as well. It is good to see some white fluffy lint. In the next few newsletters I will address defoliation strategies for our early and late planted crops. My suggestion is to begin planning on a two pass defoliation program, details will follow in later issues.

**Figure 2.** Open boll, PhytoGen 375 WRF planted April 22, 2009. Photo by: Pat Brawley.



**Insect Considerations (Scott Stewart, IPM Specialist)**

**Cotton.** This is the last week that we will run pheromone traps for moths because most of my help is leaving. Bollworm moths were clearly more obvious in some fields this week, especially as you went to the north, and infestations of bollworm or fall armyworm will remain a threat in late planted cotton until at least the end of the month. The bollworm flight is extended (as expected), but it is smaller and even later than I predicted. However, bollworm infestations are being treated in scattered fields and this includes some WideStrike fields and just a few Bollgard II fields. These are not blowout situations but numbers are just at or above the threshold of 4% “escaped” larvae. One thing is apparent – folks that used straight Bidrin or Orthene/Acephate for plant bugs in the previous 7-14 days are having more problems with bollworms. Those who sprayed a tank-mix which included a pyrethroid insecticide have fewer bollworms.



Why do I generally NOT recommend a straight pyrethroid for plant bug control? The table below illustrates the answer. These data are from an insecticide test rated this past Monday in Lauderdale County. These are not big numbers of plant bugs but you can see that a tank mix which included Acephate was considerably better than a straight pyrethroid (i.e., Declare and Mustang Max). Acephate applied by itself was a decent treatment but would not provide protection from bollworms. Of course a tank mix will cost a little more, but remember the most expensive treatment is the one that doesn’t work. A pyrethroid insecticide tank-mixed with Bidrin (2-4 oz), Acephate (0.33-0.5 lb), Vydate (6-8 oz) and Diamond (4-6 oz) are common and preferred treatments. Definitely use the higher-end rates of these tank mix partners if you have a lot of plant bugs.

**Plant Bug Insecticide Trial in Cotton - Rated Four Days After Treatment.**

Treatment – Rate/Acre	Mean Number of Plant Bugs per Drop Cloth*	Percent Control
Declare 1.25 EC – 2 oz	4.0 ab	26%
Mustang Max – 3.2 oz	3.8 ab	28%
Acephate 90S – 8 oz	1.8 b	66%
Mustang Max – 3.2 oz Acephate – 8 oz	1.3 b	75%
Untreated	5.3 a	---

\* Means followed by the same letter are not significantly different (P < 0.05, LSD). Only selected treatments are shown.

Are you running out of time? Dr. Main wanted me to re-state a point I made last week. For most if not all of our late (June) planted cotton, use weather rules to determine when to terminate insecticide applications for most pests. August 10<sup>th</sup> - 15<sup>th</sup> represents the last effective bloom date during an

“average” year. This means you have a 50-50 chance of picking any new bolls set that is during this time frame. The chances of picking a boll made after the date drops pretty quickly. It takes about 350-400 DD60s before a boll is relatively safe from plant bugs, stink bugs and bollworm feeding. This is about three weeks. So after about September 5<sup>th</sup> you should be asking yourself if you are really going to benefit from further insecticide applications on late planted cotton. Do not chase bolls that cannot be harvested. My suggestions – stay on top of insect pests until early September and then stop making treatments for plant bugs, stink bugs and bollworm or tobacco budworm. If we have a great fall you still may pick some of those late bolls. If we have an average fall you have not wasted any many protecting bolls that were not picked.

**Soybean.** It still remains pretty quiet. Stink bugs are building in some fields and still need to be sampled every 7-10 days. Few fields are being treated but expect that to change next month. Applications for most insect pests can be terminated once at R7. We will need to vigilantly sample late maturing soybeans well into September for stink bugs, loopers and other pests. Soybean loopers are starting to show up in northern Mississippi. They tend to move northward and can seriously defoliate late maturing soybeans in Tennessee.

**Regional Report (Hayden E. “Gene” Miles, Area Extension Specialist, Northwest Tennessee).**

The area is starting to get dry in places and some wilting of soybeans and cotton are being seen in droughty areas of fields. Some center pivot irrigation rigs have been turned on and rain is being forecast for this week.

**Cotton** - Growth stages of cotton being reported from IPM scouts, producers and private consultants range from boll set to boll maturing. One producer has reported seeing an open boll of cotton this week in April planted cotton. More mature cotton plants in the Delta are averaging 14 1<sup>st</sup> positions and dropped from 76 percent last week to 73 percent 1<sup>st</sup> position fruit retention this week. Plant bug numbers being reported from private consultants, producers and IPM scouts range up to 10.2 per 6 row feet. Bollworm/budworm damage in Bollgard I cotton is being reported by private consultants at the 4 percent fruit damage level (threshold 2%) and 6 worms greater than 1/4 inch long per 100 terminals. Private consultants are also reporting conventional cotton being treated for the 3<sup>rd</sup> consecutive week due to bollworm/budworm damage. Aphid populations being reported this week have really dropped due to beneficials which include lady beetles, parasitic wasp and “aphid fungus” (*Neozygites fresenii*). The aphid threshold in mid to late season cotton is considered to be when aphid populations are very numerous (greater than 50 per leaf), honey dew is present and natural control agents are not affecting aphid populations. Beneficial counts this week range up to 11.0 per 6 row feet.

**Soybeans** - Soybean insect populations being reported this week remain below threshold and one private consultant is observing frog-eye occurring in some fields.

**Corn** - One field of June planted corn in the area has been treated with a recommended insecticide for fall armyworm damage. The economic threshold is considered to be when 50 percent of the plants have one or more larvae per plant.

Tennessee Pheromone Moth Trapping Summary - Trapping efforts are funded in large part by the Tennessee Cotton Incorporated State Support Program. Thanks to the County Extension Agents who are also running southwestern corn borer traps.

**Numbers of Moths per Week (Week 16, Ending 8-19-09)**

Trap Location	Tobacco Budworm	Corn Earworm (Bollworm)	Beet Armyworm
Hardeman (Bolivar)	0	2	0
Fayette (Whiteville)	0	0	---
Fayette (Somerville)	0	4	0
Shelby (Millington)	0	21	0
Tipton (Covington)	2	11	---
Tipton (North)	0	59	0
Lauderdale (Goldust)	0	1	0
Haywood (West)	0	0	*
Haywood (Brownsville)	0	8	---
Madison (WTREC)			
Madison (North)	0	21	0
Crockett (Alamo)	0	21	0
Crockett (Maury City)	0	42	*
Dyer (Dyersburg)	0	43	0
Dyer (Newbern)	1	32	0
Lake (Ridgley)	0	6	*
Gibson (Kenton)	0	13	0
Gibson (Milan REC)	0	1	*
Carroll (Coleman Farm)	*	*	0
<b>Average per Trap</b>	<b>0.18</b>	<b>17</b>	<b>3</b>

An asterisk (\*) indicates the trap was missing, knocked down, or no report was received.

The University of Tennessee is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA institution in the provision of its education and employment programs and services. All qualified applicants will receive equal consideration for employment without regard to race, color, national origin, religion, sex, pregnancy, marital status, sexual orientation, gender identity, age, physical or mental disability, or covered veteran status. The University of Tennessee Institute of Agriculture, Agricultural Extension Service, Tim Cross, Dean.

**DISCLAIMER STATEMENT**

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label takes precedence over the recommendations found in this publication. Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others which may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product. The author(s), The University of Tennessee, The Institute of Agriculture and the University of Tennessee Extension assume no liability resulting from the use of these recommendations.

Scott D. Stewart (editor)  
Extension IPM Specialist

